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10/673,465

09/30/2003

Soon Young Park

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EXAMINER

BRIGGS, NATHANAEL R

ART UNIT

PAPER NUMBER

2871

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/673,465

Applicant(s)

PARK ET AL.

Examiner

Nathanael R. Briggs

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 May 2007 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 11 June 2007 have been fully considered but they are not persuasive.

3. Applicant argues that Suzuki in view of Zhang does not disclose the limitation, "at least one capacitor in the non-display part and connected to at least one of the gate line, the common line, and the data line for storing a remaining electric charge component in the display part and eliminating the stored electric charge component".

However, as expressed in the previous rejection, Suzuki in view of Zhang discloses the amended limitation, including "the stored electric charge component", since a capacitor would inherently store or eliminate an electric charge component incident upon it.

Previous prior art rejection is therefore appropriate.

4. Furthermore, Applicant argues that Suzuki in view of Zhang discloses a capacitor having a function to absorb a pulse voltage induced from the outside, whereas the capacitor of Applicant's invention accumulates an electric charge component remaining

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in the display part after illustrating previous picture data and then eliminates the stored electric charge component by discharging in accordance with the discharging characteristics of the capacitor. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., electric charge induced from outside vs. inside) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Finally, Applicant argues that the combination of Suzuki and Zhang is inappropriate because they involve fundamentally different structures. However, the use of a storage capacitor is well known in the art for both IPS and matrix LCD devices. Furthermore, both IPS and matrix devices both include data lines, and the operation of a capacitor on such data lines would be identical for both types of devices, and the addition of a capacitor would therefore have been obvious. Therefore, Applicant's arguments are not persuasive.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. **Claims 1-6, 8-11, 13-20, 22-25, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 6,333,769) in view of Zhang et al. (6,411,351).**

8. Regarding claims 1 and 15, Suzuki discloses an LCD (see figures 1 and 3, for instance), having a substrate (1A) with a display (AR) and non-display part, a gate line (3), a common line (50), and a data line (4) crossing the gate line (3) and the common line (50) while being insulated therefrom, to define a pixel area (53). However, Suzuki does not expressly disclose wherein the LCD has at least one capacitor in the non-display part and connected to at least one of the gate line, the common line and the data line for storing a remaining electric charge component in the display part and eliminating the stored electric charge component.

9. Regarding claims 1 and 15, Zhang discloses an LCD (see figure 1, for instance) having at least one capacitor (107) in the non-display part and connected to at least one of the gate line, the common line and the data line (102) for storing a remaining electric charge component in the display part and eliminating the stored electric charge component.

10. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the capacitor disclosed by Zhang in the LCD of Suzuki. The motivation for doing so would have been to improve production yield of manufacturing LCD's by suppressing failure caused by electrostatic breakdown, as taught by Zhang (column 2, lines 53-56). Claims 1 and 15 are therefore unpatentable.

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11. Regarding claims 2 and 16, Suzuki further discloses the LCD device according to claims 1 and 15 (see figures 1 and 3, for instance), further having a common electrode (50A) in the display part (AR) of the substrate (1A) and connected to the common line (50); a TFT (TFT) at a crossing area of the gate line (3) and the data line (4); a gate insulating film (column 5, lines 25-30) between the gate line (3) and the data line (4); a protective film (column 5, lines 25-30) on the gate insulating film (column 5, lines 25-30) for protecting the TFT (TFT); and a pixel electrode (53) connected to the TFT (TFT) to form a horizontal electric field with the common electrode (column 2, lines 64-67).

Claims 2 and 16 are therefore unpatentable.

12. Regarding claims 3 and 17, Suzuki in view of Zhang discloses the LCD device according to claims 2 and 16 (see Zhang, figure 1, for instance), wherein the capacitor (107) includes a first capacitor (107) connected to at least one of the gate line (111) and the common line; and a second capacitor (107) connected to the data line (110). Claims 3 and 17 are therefore unpatentable.

13. Regarding claims 4 and 18, Suzuki in view of Zhang discloses the LCD device according to claims 3 and 17 (see Suzuki figure 1, for instance), further having a first static electricity prevention means (NL) in the non-display part of the substrate (1A) and connected to the gate line (3) and common line (50), which would be attached to the first capacitor; and a second static electricity prevention means (NL) in the non-display part of the substrate (1A) and connected to the data line (4), which would be attached to the second capacitor. Claims 4 and 18 are therefore unpatentable.

14. Regarding claims 5 and 19, Suzuki in view of Zhang discloses the LCD device according to claims 4 and 17 (see Zhang figures 1 and 3(C), for instance), and Zhang further discloses wherein the first capacitor (107) includes a first shorting bar (307) connected to the first static electricity prevention means, at least one layer of insulating film (306) on the first shorting bar (307); and a first dummy line (330) to overlap the first shorting bar (307) on the at least one layer of insulating film (306). Claims 5 and 19 are therefore unpatentable.

15. Regarding claims 6 and 20, Suzuki in view of Zhang discloses the LCD device according to claims 5 and 19 (see Zhang figures 1 and 3(C), for instance), and Zhang further discloses wherein the first shorting bar (307) includes the same metal as any one of the gate line and the data line (column 6, lines 29-31, and lines 38-39). Claims 6 and 20 are therefore unpatentable.

16. Regarding claims 8-9 and 22-23, Suzuki in view of Zhang discloses the LCD device according to claims 5 and 19 (see Zhang figures 1 and 3(C), for instance), and Zhang further discloses wherein the at least one layer of insulating film (306) is the gate insulating film (306) and the protective film (306). Claims 8-9 and 22-23 are therefore unpatentable.

17. Regarding claims 10 and 24, Suzuki in view of Zhang discloses the LCD device according to claims 4 and 17 (see Zhang figures 1 and 3(C), for instance), and Zhang further wherein the second capacitor (107) includes: a second shorting bar (307) connected to the second static electricity prevention means; at least one layer of insulating film (306) on the second shorting bar (307); and a second dummy line (330)

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to overlap the second shorting bar (307) on the at least one layer of insulating film (306). Claims 10 and 24 are therefore unpatentable.

18. Regarding claims 11 and 25, Suzuki in view of Zhang discloses the LCD device according to claims 10 and 24 (see Zhang figures 1 and 3(C), for instance), and Zhang further discloses wherein the first shorting bar (307) includes the same metal as any one of the gate line and the data line (column 6, lines 29-31, and lines 38-39). Claims 11 and 25 are therefore unpatentable.

19. Regarding claims 13-14 and 27-28, Suzuki in view of Zhang discloses the LCD device according to claims 10 and 24 (see Zhang figures 1 and 3(C), for instance), and Zhang further discloses wherein the at least one layer of insulating film (306) is the gate insulating film (306) and the protective film (306). Claims 13-14 and 27-28 are therefore unpatentable.

**20. Claims 7, 12, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 6,333,769) in view of Zhang et al. (6,411,351) as applied to claim 1-6, 8-11, 13-20, 22-25, and 27-28 above, and further in view of Nishikawa (US 5,686,976).**

21. Regarding claims 7, 12, 21, and 26, Suzuki in view of Zhang discloses the LCD device according to claims 5, 10, 19, and 24 (see Zhang figures 1 and 3(C), for instance). However, Suzuki in view of Zhang does not expressly disclose wherein the first and second dummy lines include the same metal as the pixel electrode.



22. Regarding claims 7, 12, 21, and 26, Nishikawa discloses an LCD (see figure 7, for instance), wherein the dummy lines are made of the same metal as the pixel electrodes (column 4, lines 42-44).

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the dummy line structure of Nishikawa in the LCD of Suzuki in view of Zhang. The motivation for doing so would be to reduce manufacturing costs by using a reduced number of masks while improving image display quality, as taught by Nishikawa (column 4, lines 5-8). Claims 7, 12, 21, and 26 are therefore unpatentable.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathanael R. Briggs whose telephone number is (571) 272-8992. The examiner can normally be reached on 9 AM - 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathanael Briggs  
8/21/07

  
ANDREW SCHEGLER  
PRIMARY EXAMINER